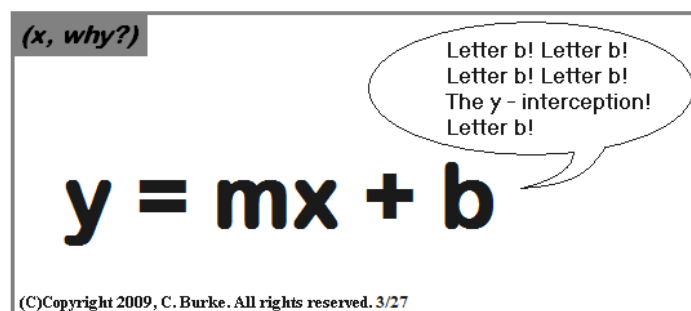


LESSON
3-6***Lines in the Coordinate Plane***

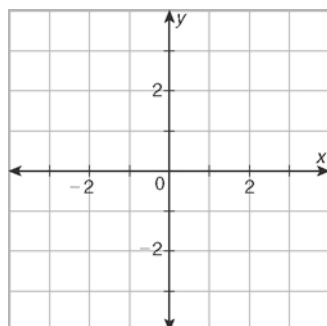
1. Write the equation of the horizontal line passing through the (3, 7) in standard form.
2. Write the equation of the line with slope $-\frac{8}{5}$ through (1, -5) in point-slope form.
3. Write the equation of the line passing through $\left(-\frac{1}{2}, -\frac{7}{2}\right)$ and (2, 14) in slope-intercept form.
4. Write the equation of the line with x -intercept -2 and y -intercept -1 in slope-intercept form.



Graph each line.

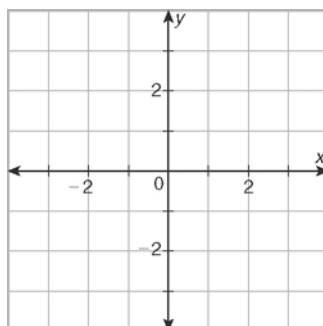
5.

$$y + 3 = \frac{3}{4}(x + 1)$$



6.

$$y = -\frac{4}{3}x + 2$$



Determine whether the lines are parallel, intersect, or coincide.

$$x - 5y = 0$$

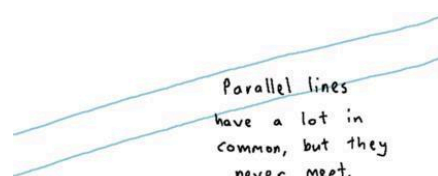
$$2y + 2 = x$$

$$y = 4(x - 3)$$

7. $y + 1 = \frac{1}{5}(x + 5)$

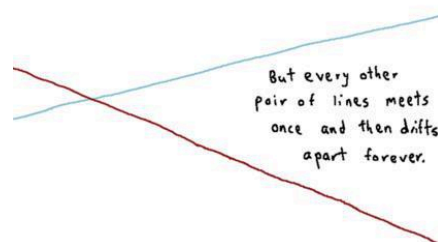
8. $\frac{1}{2}x = -1 + y$

9. $\frac{3}{4} + 4y = -\frac{1}{4}x$



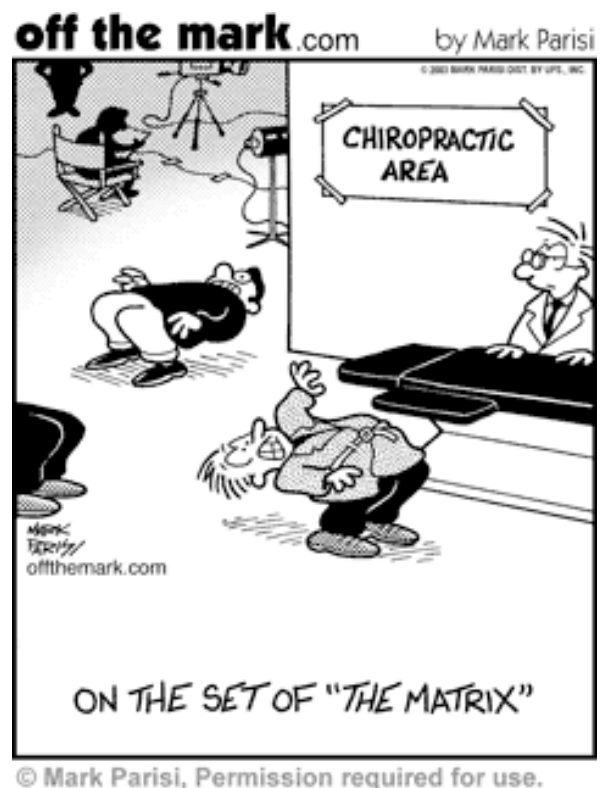
Ever.

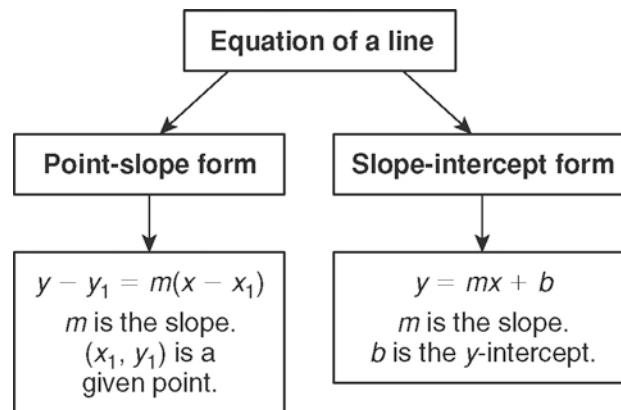
You might think that's sad.



Which is pretty sad too.

10. An *aquifer* is an underground storehouse of water. The water is in tiny crevices and pockets in the rock or sand, but because aquifers underlay large areas of land, the amount of water in an aquifer can be vast. Wells and springs draw water from aquifers. Two relatively small aquifers are the Rush Springs (RS) aquifer and the Arbuckle-Simpson (AS) aquifer, both in Oklahoma. Suppose that starting on a certain day in 1985, 52 million gallons of water per day were taken from the RS aquifer, and 8 million gallons of water per day were taken from the AS aquifer. If the RS aquifer began with 4500 million gallons of water and the AS aquifer began with 3000 million gallons of water and no rain fell, write a slope-intercept equation for each aquifer and find how many days passed until both aquifers held the same amount of water. (Round to the nearest day.)





11. Why do you think $y - y_1 = m(x - x_1)$ is called point-slope form?

12. Why do you think $y = mx + b$ is called the slope-intercept form of the line?

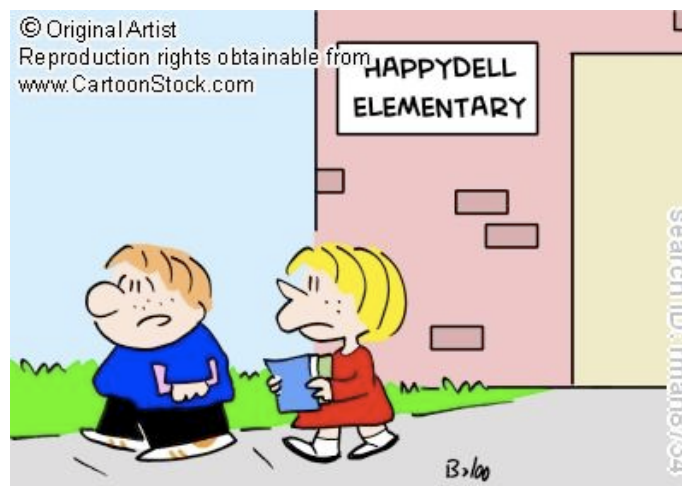
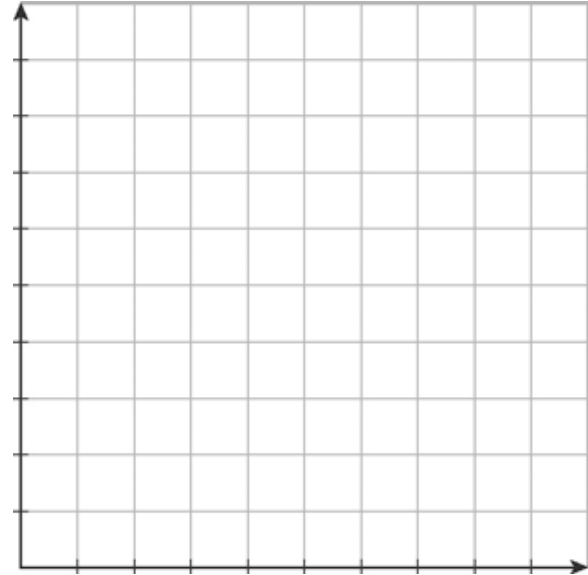
13. How is the point-slope form of an equation like the slope-intercept form of the equation?

14. If you know two points on a line, which form of the equation is easier to write?

15.

Ms. Williams is planning to buy T-shirts for the cheerleading camp that she is running. Both companies' total costs would be the same after buying how many T-shirts? Use a graph to find your solution.

	Art Creation Fee	Cost per T-shirt
Company A	\$70	\$10
Company B	\$50	\$12



"Plane geometry is hard enough
— what will *fancy* geometry
be like?"